

### Remarks

#### I. Status of claims

Claims 1-51 are pending.

#### II. Claim rejections under 35 U.S.C. § 101

##### A. Determining patentable subject matter under 35 U.S.C. § 101

In accordance with the “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” (published November 22, 2005; referred to herein as the “Interim Guidelines”), which clarifies the process described in MPEP § 2106 in view of the recent precedential Board decision in Ex parte Carl A. Lundgren, Appeal No. 2003-2088 (BPAI 2005), the following procedure should be used for determining whether a claim is directed to patentable subject matter under 35 U.S.C. § 101:

1. Determine whether the claim falls within one of the four enumerated categories: process, machine, manufacture, and composition of matter.
2. Next, determine whether the claim is directed to nothing more than one of the following judicial exceptions: abstract idea (such as mathematical algorithms), natural phenomena, and laws of nature. In this regard, the issue is whether the claim would, in reality, preempt the use of a law of nature or abstract idea (e.g., a process that comprises every substantial practical application of an abstract idea). The Examiner must identify the abstraction, law of nature, or natural phenomenon and explain why the claim covers every substantial practical application thereof. If the Examiner meets this burden, she has established a *prima facie* case that the claims are not directed to patentable subject matter under 35 U.S.C. § 101.
3. On the other hand, the claim is directed to patentable subject matter if it recites a practical application of any of the three judicial exceptions, which is established:
  - a. if the claimed invention “transforms” an article or physical object to a different state or thing; or

- b. if the claimed invention otherwise produces a useful, concrete, and tangible result. The result is useful if it is specific, substantial, credible, and specifically recited in the claim. The result is tangible if it is a "real-world result," as opposed to an abstract idea. The result is concrete if it can be assured (i.e., the process has a result that can be substantially repeatable or the claimed process must substantially produce the same result again.).
4. If the claim is directed to a practical application of one of the judicial exceptions, producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101.

B. The Examiner's position and Applicants' rebuttal

The Examiner has rejected claim 1-51 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In particular, the Examiner has stated that:

In claims 1-21, 23-31 and 33-50, the "method" is recited; however, all method claimed are abstract ideas not practical application, therefore it not limited to tangible, patent-eligible subject matter.

In claims 22, 32 and 51, a "system of organizing" is recited; however, system claimed comprises only software components. However, it is a computer software per se.

That is, the Examiner's position is that each of the pending claims falls within one of the four categories enumerated in 35 U.S.C. § 101, but the method claims 1-21, 23-31, and 33-50 are directed to nothing more than abstract ideas and the system claims 22, 32, and 51 are directed to computer software and is therefore ineligible for patent protection.

With respect to the method claims 1-21, 23-31, and 33-50, however, the Examiner has not identified the abstraction to which these claims are solely directed and has not explained why each of these claims covers every substantially practical application of that abstraction. Therefore, the Examiner has not established a *prima facie* case that these method claims are directed to non-statutory subject matter.

With respect to the system claims 22, 32, and 51, the Examiner's contention that the "system claimed comprises only software components" is not correct. Although the scope of

these claims encompasses software components, these claims do not comprise “only software components.” Moreover, there is no per se rule for computer-related inventions that obviates the need for the Examiner to establish a *prima facie* case of ineligibility for patent protection under 35 U.S.C. § 101 (see, e.g., MPEP § 2106 and the Interim Guidelines). Since the Examiner has not given any proper reasons for the rejection of these system claims under 35 U.S.C. § 101, the Examiner has not established a *prima facie* case that these system claims are directed to non-statutory subject matter.

For at least the reasons explained above, the Examiner's rejection of claims 1-51 under 35 U.S.C. § 101 should be withdrawn. This rejection also should be withdrawn for the following additional reasons.

1. Method claims 1-21

Independent claim 1 has been amended and now recites in part “classifying the objects in the sequence to generate a series of object clusters.”

The “classifying” step recited in claim 1 does not involve merely solving mathematical problems or manipulating only numbers, abstract ideas or concepts (e.g., a bid or a bubble hierarchy) without some claimed practical application; nor do these steps consist solely of mathematical operations (i.e., converting one set of number into another set of numbers). Instead, in accordance with the ordinary and accustomed meaning of the term “classifying” (see, e.g., Merriam-Webster's Collegiate Dictionary, 10th Ed.), the claimed “classifying” step involves arranging the objects in classes or assigning the objects to a category “to generate a series of object clusters.” In addition, whatever “abstract ideas” the Examiner believes claim 1 manipulates, there is no reasonable way that claim 1 could be considered to cover every substantial practical application of those ideas.

For at least these additional reasons, the Examiner's rejection of independent claim 1 under 35 U.S.C. § 101 should be withdrawn. This rejection also should be withdrawn for the following additional reason.

Even if the Examiner can somehow establish that “classifying the objects in the sequence to generate a series of object clusters” involves nothing more than manipulation of abstract ideas, the invention defined in claim 1 produces a useful, concrete, and tangible result (i.e., a series of object clusters). As explained in the specification, the claimed result “may be used for any of a variety of applications, including permanent organization,

collective annotation, and dynamic visualization” (page 5, lines 24-25). The result is useful because it is specific, substantial, credible, and specifically recited in the claim. The result is tangible because it is a “real-world result” (i.e., a series of object clusters), as opposed to an abstract idea. The result is concrete because it can be assured (i.e., a given embodiment of the method defined in claim 1 will produce substantially the same result each time the method is executed; in other words, the method defined in claim 1 has a result that is substantially reproducible).

For at least this additional reason, the Examiner's rejection of independent claim 1 under 35 U.S.C. § 101 should be withdrawn.

Each of claims 2-22 incorporates the features of independent claim 1 and therefore is directed to patentable subject matter for at least the same reasons.

## 2. Method claims 23-31

Independent claim 23 recites:

23. A method of organizing a collection of objects, comprising:  
segmenting objects from the collection into clusters;  
extracting context-related meta data associated with the objects and parsable into multiple levels of a name hierarchy;  
and  
assigning names to clusters based on the extracted context-related meta data corresponding to a level of the name hierarchy selected to distinguish segmented clusters from one another.

The “segmenting,” “extracting,” and “assigning” steps recited in claim 23 do not involve merely solving mathematical problems or manipulating only numbers, abstract ideas or concepts (e.g., a bid or a bubble hierarchy) without some claimed practical application; nor do these steps consist solely of mathematical operations (i.e., converting one set of number into another set of numbers). Instead, in accordance with the ordinary and accustomed meaning of the terms “segmenting,” “extracting,” and “assigning” (see, e.g., Merriam-Webster's Collegiate Dictionary, 10th Ed.), the claimed “segmenting,” “extracting,” and “assigning” steps involves dividing objects from a collection into clusters, determining context-related meta data associated with the objects, and associate names to the clusters. In addition, whatever “abstract ideas” the Examiner believes claim 23 manipulates, there is no

reasonable way that claim 23 could be considered to cover every substantial practical application of those ideas.

For at least these additional reasons, the Examiner's rejection of independent claim 23 under 35 U.S.C. § 101 should be withdrawn. This rejection also should be withdrawn for the following additional reason.

Even if the Examiner can somehow establish that the "segmenting," "extracting," and "assigning" steps recited in claim 23 involve nothing more than manipulation of abstract ideas, the invention defined in claim 23 produces a useful, concrete, and tangible result (i.e., object clusters with assigned names). As explained in the specification, the claimed result provides "meaningful, context-sensitive names to the object clusters" (page 6, lines 1-3). The result is useful because it is specific, substantial, credible, and specifically recited in the claim. The result is tangible because it is a "real-world result" (i.e., object clusters with assigned names), as opposed to an abstract idea. The result is concrete because it can be assured (i.e., a given embodiment of the method defined in claim 23 will produce substantially the same result each time the method is executed; in other words, the method defined in claim 23 has a result that is substantially reproducible).

For at least this additional reason, the Examiner's rejection of independent claim 23 under 35 U.S.C. § 101 should be withdrawn.

Each of claims 24-31 incorporates the features of independent claim 1 and therefore is directed to patentable subject matter for at least the same reasons.

### 3. Method claims 33-50

Independent claim 33 has been amended and now recites:

33. A method of organizing a collection of objects, comprising:
- accessing a sequence of objects segmented into clusters each including multiple constituent objects arranged in a respective sequence in accordance with context-related meta data associated with the objects;
  - selecting for each object cluster at least two constituent objects representative of beginning and ending instances in the corresponding object sequence; and
  - in a user interface, graphically presenting the selected representative objects of each cluster without graphically

presenting representations of unselected ones of the constituent objects of the clusters.

The “accessing,” “selecting,” and “graphically presenting” steps recited in claim 33 do not involve merely solving mathematical problems or manipulating only numbers, abstract ideas or concepts (e.g., a bid or a bubble hierarchy) without some claimed practical application; nor do these steps consist solely of mathematical operations (i.e., converting one set of number into another set of numbers). For example, in accordance with the ordinary and accustomed meaning of the term “graphically presenting” (see, e.g., Merriam-Webster's Collegiate Dictionary, 10th Ed.), the claimed “graphically presenting” step involves pictorially showing the selected representative objects of each cluster in a user interface. In addition, whatever “abstract ideas” the Examiner believes claim 33 manipulates, there is no reasonable way that claim 33 could be considered to cover every substantial practical application of those ideas.

For at least these additional reasons, the Examiner's rejection of independent claim 33 under 35 U.S.C. § 101 should be withdrawn. This rejection also should be withdrawn for the following additional reason.

Even if the Examiner can somehow establish that the “accessing,” “selecting,” and “graphically presenting” steps recited in claim 33 involve nothing more than manipulation of abstract ideas, the invention defined in claim 33 produces a useful, concrete, and tangible result (i.e., a graphical presentation of the selected representative objects of each cluster). As explained in the specification, the claimed result provides “a user with an intuitive and natural user interface for browsing and customizing the automatically segmented object clusters” (page 5, line 32 - page 6, line 1). The result is useful because it is specific, substantial, credible, and specifically recited in the claim. The result is tangible because it is a “real-world result” (i.e., a graphical presentation of the selected representative objects of each cluster), as opposed to an abstract idea. The result is concrete because it can be assured (i.e., a given embodiment of the method defined in claim 33 will produce substantially the same result each time the method is executed; in other words, the method defined in claim 33 has a result that is substantially reproducible).

For at least this additional reason, the Examiner's rejection of independent claim 33 under 35 U.S.C. § 101 should be withdrawn.

Each of claims 34-50 incorporates the features of independent claim 1 and therefore is directed to patentable subject matter for at least the same reasons.

4. System claims 22, 32, and 51

None of the system claims 22, 32, and 51 recites (i) nonfunctional descriptive material, such as music, literary works and a compilation or mere arrangement of ideas" (see MPEP § 2106 IV.B.1), (ii) functional descriptive material (e.g., data structures or computer listings) not claimed as embodied in computer-readable material (see MPEP § 2106 IV.B.1(a)), or (iii) "nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field" (see MPEP § 2106 IV.B.1(c)). Instead, each of these claims is an apparatus claim that recites one or more "engines" that are operable to perform specified functions. Accordingly, none of these claims is directed to non-statutory subject matter per se, contrary to the Examiner's position (see MPEP § 2106).

In addition, none of the system claims 22, 32, and 51 involves merely solving mathematical problems or manipulating only numbers, abstract ideas or concepts (e.g., a bid or a bubble hierarchy) without some claimed practical application; nor do these systems consist solely of mathematical operations (i.e., converting one set of number into another set of numbers). Instead, each of the system claims 22, 32, and 51 recites more than one of the three judicial exceptions, including recitation of a practice application:

- Regarding claim 22, the claimed "segmentation engine" is operable to classify the objects "to generate a series of object clusters."
- Regarding claim 32, the claimed "segmentation engine" and "naming engine" are operable to divide objects from a collection into clusters, extract context-related meta data associated with the objects, and assign names to the clusters.
- Regarding claim 51, the claimed "layout engine" is operable to graphically present the selected representative objects of each cluster in a user interface.

Moreover, whatever "abstract ideas" the Examiner believes claims 22, 32, and 51 respectively manipulate, there is no reasonable way that these claims could be considered to cover every substantial practical application of those ideas.

In addition, the functional limitations recited in the system claims 22, 32, and 51 essentially track the pertinent method steps respectively recited in method claims 1, 23, and 33. Therefore, even if the Examiner can somehow establish that the functional features

recited in the system claims 22, 32, and 51 involve nothing more than manipulation of abstract ideas, the aspects of the invention defined in these system claims produce useful, concrete, and tangible results for the same reasons explained above in connection with the method claims 1, 23, and 33.

For at least these additional reasons, the Examiner's rejection of the system claims 22, 32, and 51 under 35 U.S.C. § 101 should be withdrawn.

### III. Claim rejections under 35 U.S.C. § 102

The Examiner has rejected claim 1-51 under 35 U.S.C. § 102(e) over Platt (U.S. 2003/0009469).

#### A. Independent claim 1

Claim 1 has been amended and now recites in part "comparing the candidate object interval to a weighted measure of cluster extent for the current object cluster," where the "candidate object interval [separates] the candidate object from an adjacent object in the sequence already segmented into the current object cluster" and "the measure of cluster extent corresponding to a current distance spanned by all the objects in the current object cluster measured in the selected dimension of the context-related metadata."

The Examiner has stated that Platt teaches "segmenting a sequence of objects into clusters based on comparisons of successive object intervals to weighted measures of cluster extent" in paragraphs 12 and 34-36. The Examiner also has stated that "Platt teaches 'wherein measures of cluster extent correspond to spans of recorded generation times over which objects in the clusters respectively extend'" in paragraphs 12, 37, 41, 45, 58, and 59.

- In paragraph 12, Platt merely teaches that that unlabeled data is grouped based on a similarity with other data, where a "distance metric may be used to identify related media objects." This disclosure does not teach that the unlabeled data is grouped based on a comparison of a candidate object interval that separates the unlabeled data from an adjacent object in a sequence already segmented into a current object cluster to a weighted measure of cluster extent of the current object cluster. Indeed, this disclosure does not even hint that the unlabeled data is arranged in an ordered sequence with the "other data" nor does this disclosure teach that the cluster extent of the "other data" is relevant to the grouping process in any way whatsoever.
- In paragraph 34, Platt merely describes the sources from which the media objects may be supplied and defines the term "cataloging".



- In paragraph 35, Platt merely defines the processes of “categorization” and “clustering” and indicates that an index may be built by either of these processes.
- In paragraph 36, Platt merely teaches that media objects in a “collection” have similar content or relate to similar subject matter and that “Keywords may be used to indicate what information is found in a media object stored under a particular collection and/or category or to index a media object.”
- In paragraph 37, Platt merely teaches that media objects may be cataloged based upon correlation of the data for the media object and/or data describing the media object (metadata, such as data, time, location) with known data and metadata.
- In paragraph 41, Platt merely describes an example of the types of ancillary data that may be collected during the “data collection” phase of Platt’s cataloging method (see ¶¶ 38 and 40).
- In paragraph 45, Platt merely provides an overview of his cataloging process. In this overview, Platt explains that the media objects may be processed with respect to time, date, and/or location, where the processing may include comparing the relevant data with threshold data or performing an inexact search. A list of media objects may be pruned based on querying the user to determine the most appropriate correlation data. The media object may be catalogue based on an inference that was made based on the data for the objects in the pruned list. The media object may be indexed in a database using the file name of the media object or other known indexing method. After the media object is indexed, redundant or useless data is removed. Finally, the information for the image is updated to indicate that the image was based on an inference.
- In paragraph 58, Platt describes an embodiment in which media objects are automatically organized into collections by clustering images taken near each other in time. This embodiment includes a user interface that shows a user one representative image per collection and, in response to the selection of one of the representative image, shows the all the images of the collection corresponding to the selected representative image.
- In paragraph 59, Platt describes the process of automatically organizing media objects according to their creation times. In this process, the media objects are sorted in ascending order by creation date. A media object is added to a current collection by comparing the difference between creation times of the media object and the last media object added to the collection to a threshold X. In the embodiment described in ¶ 59, the threshold X is fixed. In the embodiment described in ¶¶ 61-63, the threshold varies adaptively in accordance with “a running average of the log time gaps between photographs” (¶ 63). In both of these embodiments, the threshold X is not a weighted “measure of cluster extent corresponding to a current distance spanned by all the objects in the current object cluster measured in the selected

dimension of the context-related metadata,” as now recited in claim 1. Indeed, the threshold X is independent of the extent of the cluster.

Thus, none of the sections of Platt's disclosure that were cited by the Examiner teaches “comparing the candidate object interval to a weighted measure of cluster extent for the current object cluster,” as now recited in claim 1. In fact, Platt's cataloging method does not involve “comparing the candidate object interval to a weighted measure of cluster extent for the current object cluster,” as now recited in claim 1.

For at least this reason, the Examiner's rejection of claim 1 under 35 U.S.C. § 102(e) over Platt now should be withdrawn.

B. Dependent claims 2-21

Each of claims 2-21 incorporates the features of independent claim 1 and therefore is patentable over Platt for at least the same reasons.

C. Independent claim 22

Independent claim 22 recites features that essentially track the pertinent features of independent claim 1 discussed above and therefore is patentable over Platt for at least the same reasons explained above.

D. Independent claim 23

Independent claim 23 recites in part “assigning names to clusters based on the extracted context-related meta data corresponding to a level of the name hierarchy selected to distinguish segmented clusters from one another.”

The Examiner has stated that Platt teaches the “assigning” step recited in claim 23 in ¶¶ 35, 36, 40, and 46.

- In paragraph 35, Platt defines the processes of “categorization” in which a user predefines labels representing collection, and “clustering” in which all objects are placed into collection without using predefined labels. This paragraph, however, does not teach anything about naming the clusters based on extracted context-related metadata.
- In paragraph 36, Platt merely teaches that media objects in a “collection” have similar content or relate to similar subject matter and that “Keywords may be used to indicate what information is found in a media object stored under a particular collection and/or category or to index a media object.” This

paragraph, however, does not teach anything about naming the clusters based on extracted context-related metadata.

- In paragraph 40, Platt merely describes the “data collection” phase of his cataloging method. This phase involves gathering ancillary data before, during or after the capture of a media object. The ancillary data may include information added by the user, information from a GPS device, or audio added from memory or an external device. This paragraph, however, does not teach anything about naming the clusters based on extracted context-related metadata.
- In paragraph 46, Platt describes a process of using a global calendar to catalog a media object. In this process, date information for an image to be cataloged is compared to dates in the global calendar. If the date corresponds to January 1<sup>st</sup>, it is inferred that the image was taken on New Year’s Day and this inference may be used to catalog the image. This paragraph, however, does not teach anything about naming the clusters based on extracted context-related metadata.

Therefore, none of the sections of Platt’s disclosure that were cited by the Examiner teaches anything about naming the clusters based on extracted context-related metadata, as recited in claim 23. For at least this reason, the Examiner’s rejection of claim 23 under 35 U.S.C. § 102(e) over Platt now should be withdrawn.

E. Dependent claims 24-31

Each of claims 24-31 incorporates the features of independent claim 23 and therefore is patentable over Platt for at least the same reasons.

F. Independent claim 32

Independent claim 32 recites features that essentially track the pertinent features of independent claim 23 discussed above and therefore is patentable over Platt for at least the same reasons explained above.

G. Independent claim 33

Independent claim 33 has been amended and now recites:

33. A method of organizing a collection of objects, comprising:
- accessing a sequence of objects segmented into clusters each including multiple constituent objects arranged in a

respective sequence in accordance with context-related meta data associated with the objects;

selecting for each object cluster at least two constituent objects representative of beginning and ending instances in the corresponding object sequence; and

in a user interface, graphically presenting the selected representative objects of each cluster without graphically presenting representations of unselected ones of the constituent objects of the clusters.

The Examiner has stated that Platt teaches the claimed “selecting” step in ¶¶ 59 and 60.

- In paragraph 59, Platt merely describes the process of automatically organizing media objects according to their creation times. In this paragraph, Platt does not teach anything about selecting for each object cluster at least two constituent objects representative of beginning and ending instances in the corresponding object sequence.
- In paragraph 60, Platt describes selecting a single representative image for a current collection. In the only example, provided by Platt, the representative image is the image with the median creation time.

Therefore, contrary to the Examiner's statement, Platt does not teach the “selecting” step recited in claim 33.

The Examiner also has stated that Platt teaches “graphically presenting the selected representative objects of each cluster” in ¶¶ 72-77.

- Paragraphs 72-74 describe steps of the color cluster algorithm shown in FIG. 10.
- Paragraph 75 describes a method that combines temporal and color clustering of photographs.
- Paragraph 76 describes the graphical user interface shown in FIG. 12. In this user interface, a single representative image is shown for each cluster in the left pane, and all the images in a cluster corresponding to a selected one of the representative images are shown in the right pane.
- Paragraph 77 describes the graphical user interface shown in FIG. 13. In this user interface, the right pane shows thumbnails 1303 of all the user's photographs and the left pane shows a single representative image for each cluster. When the user selects one of the representative images in the left pane, the scrollbar 1304 is scrolled so that the same thumbnail is vertically centered in the right pane and highlighted with a colored border.

None of the sections of Platt's disclosure that were cited by the Examiner, however, teaches "in a user interface, graphically presenting the selected representative objects of each cluster without graphically presenting representations of unselected ones of the constituent objects of the clusters," as now recited in claim 33. In fact, Platt does not teach such a step anywhere in his entire disclosure.

For at least these reasons, the Examiner's rejection of claim 33 under 35 U.S.C. § 102(e) over Platt now should be withdrawn.

H. Dependent claims 34-50

Each of claims 34-50 incorporates the features of independent claim 33 and therefore is patentable over Platt for at least the same reasons.

I. Independent claim 51

Independent claim 51 recites features that essentially track the pertinent features of independent claim 33 discussed above and therefore is patentable over Platt for at least the same reasons explained above.

IV. Conclusion

For the reasons explained above, all of the pending claims are now in condition for allowance and should be allowed.

Charge any excess fees or apply any credits to Deposit Account No. 08-2025.

Respectfully submitted,

Date: May 31, 2006



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